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UPS Uninterruptible Power Supply User Manual

Onduleur d´alimentation de secours - Manuel de l´utilisateur

USV Unterbrechungsfreie Stromversorgung Gebrauchsanweisung

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Important Safety Instructions

Thank you for purchasing the Belkin Uninterruptible Power Supply (UPS). It will provide you with the best protection for your connected equipment.

Please read this manual!

This manual provides safety, installation and operating instructions that will help you obtain the highest performance and service life that the UPS has to offer.

Please save this manual!

It includes important instructions for the safe use of this UPS and for obtaining factory service should the proper operation of the UPS come into question.

Please save or recycle the packaging materials!

The UPS shipping materials were designed with great care to provide protection from transportation related damage. These materials are invaluable if you ever have to return the UPS for service. Damage sustained during transit is not covered under the warranty.

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Introduction

Have you ever noticed your lights dim or flicker when you turn on your dishwasher or air-conditioning? This common occurrence is attributed to an under-voltage of power, also known as a BROWNOUT.

A brownout is a period of insufficient power-line voltage. It is the most common power problem, accounting for 80% of all power disturbances. Other origins of disturbances also vary, ranging from atmospheric phenomena such as lightening or frost, to near by devices generating interference such as elevators, photocopy machines and machinery, not to mention human errors such as the accidental removal of power cords or tripping of circuit breakers.

Effects: A power disturbance such as a surge, spike, swell, line noise, brownout or blackout can deprive a computer of the power it needs to function, causing unwanted damage to your computer, such as frozen keyboards and hard drive crashes. Such problems will cause you to incur computer repairs, lost data and downtime.

Solution: A Belkin Uninterruptible Power Supply (UPS) with Automatic Voltage Regulation (AVR). Typical "Stand-by" UPS units do not have AVR to increase the output voltage or decrease the output voltage to your computer. A surge protector can only protect your computer from over-voltages due to irregular power. Belkin UPS units protect against surges, spikes, swells, line-noise, brownouts and blackouts!

Only a Belkin UPS with AVR can give your computer clean and consistent power at all times.

NOTE: There is no guarantee that interference to radio/TV will not occur in a particular installation. If this UPS causes interference to radio or television reception (this can be determined by turning the UPS power off and on), the user is encouraged to try to correct the interference by one or more of the following measures:

- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Increase the separation distance between the equipment and the receiver.
- Reorient or relocate the receiving antenna.

Safety

CAUTION!

- To reduce the risk of electric shock, disconnect the UPS from the main power supply before installing a computer interface signal cable. Reconnect the power cord only after signaling interconnections have been made.
- The internal energy source (the battery) cannot be de-energised by the user. The output may be energised when the unit is not connected to a main power supply, thus a shock hazard may be present.

Electrical Safety

- Check that the power cord(s), plug(s), and sockets are in good condition.
- To reduce the risk of electric shock when grounding cannot be verified, disconnect the equipment from the AC power outlet before installing or connecting to other equipment. Reconnect the power cord only after all connections are made.
- Do not handle any kind of metallic connector before the power has been removed.
- Use one hand, whenever, possible to connect or disconnect signal cables to avoid a possible shock from touching two surfaces with different electrical grounds.
- Connect the equipment to a three wire AC outlet (two poles plus ground). The receptacle must be connected to an appropriate circuit protection device (fuse or circuit) breaker. Connection to any other type of receptacle may result in a shock hazard.

WARNING: (RISK OF ELECTRIC SHOCK)
HAZARDOUS LIVE PARTS INSIDE THIS UNIT ARE energised FROM THE BATTERY SUPPLY EVEN WHEN THE INPUT AC POWER IS NOT CONNECTED.

WARNING: (RISK OF ELECTRIC SHOCK)
DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE, PLEASE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Contents List

- One Belkin Regulator Pro Gold Series UPS (325VA, 425VA, 525VA, 625VA)
- One AC Power Cable 1.8M (6ft)
- One Telephone Cable 1.8M (6ft) RJ11(425VA, 525VA, 625VA Models Only)
- One Serial Cable RS232 1.8M (6ft) (425VA, 525VA, 625VA Models Only)
- One Cable Management Rail
- One Product Manual
- One Belkin Sentry Bulldog Shutdown Management Software CD (425VA, 525VA, 625VA Models Only)
- One Sticker (6 Languages)
- One Product/Connected Equipment/Data Recovery Warranty Sheet.

Presentation

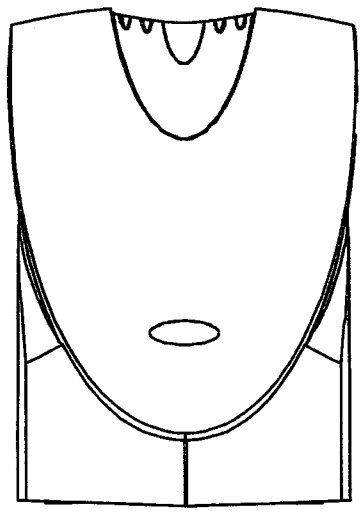
FRONT PANEL

Different LEDs on the front panel will signal information when various conditions occur:

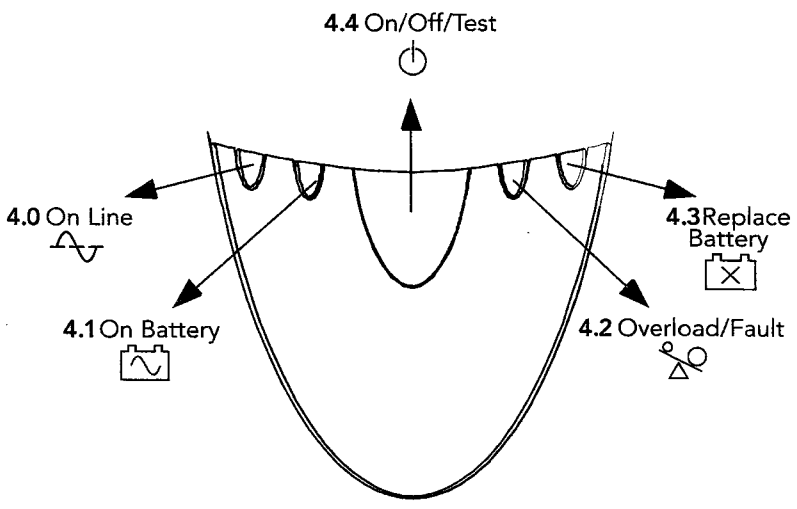
LED	: Light ☼: Flash	MEANING
4.0 ON LINE	Green ☼	Utility is normal. Utility is abnormal—AVR (Automatic Voltage Regulation) in operation.
4.1 ON BATTERY	Yellow ☼	UPS supplies power to outlets from battery source. Battery is low; the UPS will start shutdown. The buzzer sounds an audible alarm.
4.2 OVERLOAD	Red ☼	There is a problem with the UPS. The LED will be lit continuously and the buzzer will sound an audible alarm for 10 seconds. Battery output is drawing more power than the UPS can provide.
4.3 REPLACE BATTERY	Red ☼	Battery is too weak or bad. If UPS is in "On Battery" mode this means the UPS is just testing the condition of the battery.

4.4 ON/OFF/TEST/SILENCE BUTTON

Press the button more than 3 seconds to turn the UPS on or off, press the button less than 3 seconds to activate the UPS self-testing or to silence the back up alarm.



Front Plane



Front Plane

Presentation (continued)

REAR PANEL

4.5 INTERFACE PORT

Provides both USB or RS232 (Depending on model) to relay the signal to support DOS®, Windows®, and other operating systems.

4.6 TELEPHONE/FAX/MODEM OR 10Base-T NETWORK PROTECTION

Telephone/Fax/Modem lines are surge protected and provide complete safety for Internet connection. One input port and two output interface ports allow for two devices to be protected (i.e. Modem and fax).

4.7 BATTERY REPLACEMENT DOOR (HOT-SWAPPABLE BATTERY)

4.8 AC INPUT POWER RECEPTACLE

4.9 AC BREAKER (CIRCUIT BREAKER)

The circuit breaker button will stick out if an overload condition forces the UPS to disconnect itself from utility power. If the button sticks out, disconnect non-essential equipment and reset the circuit breaker.

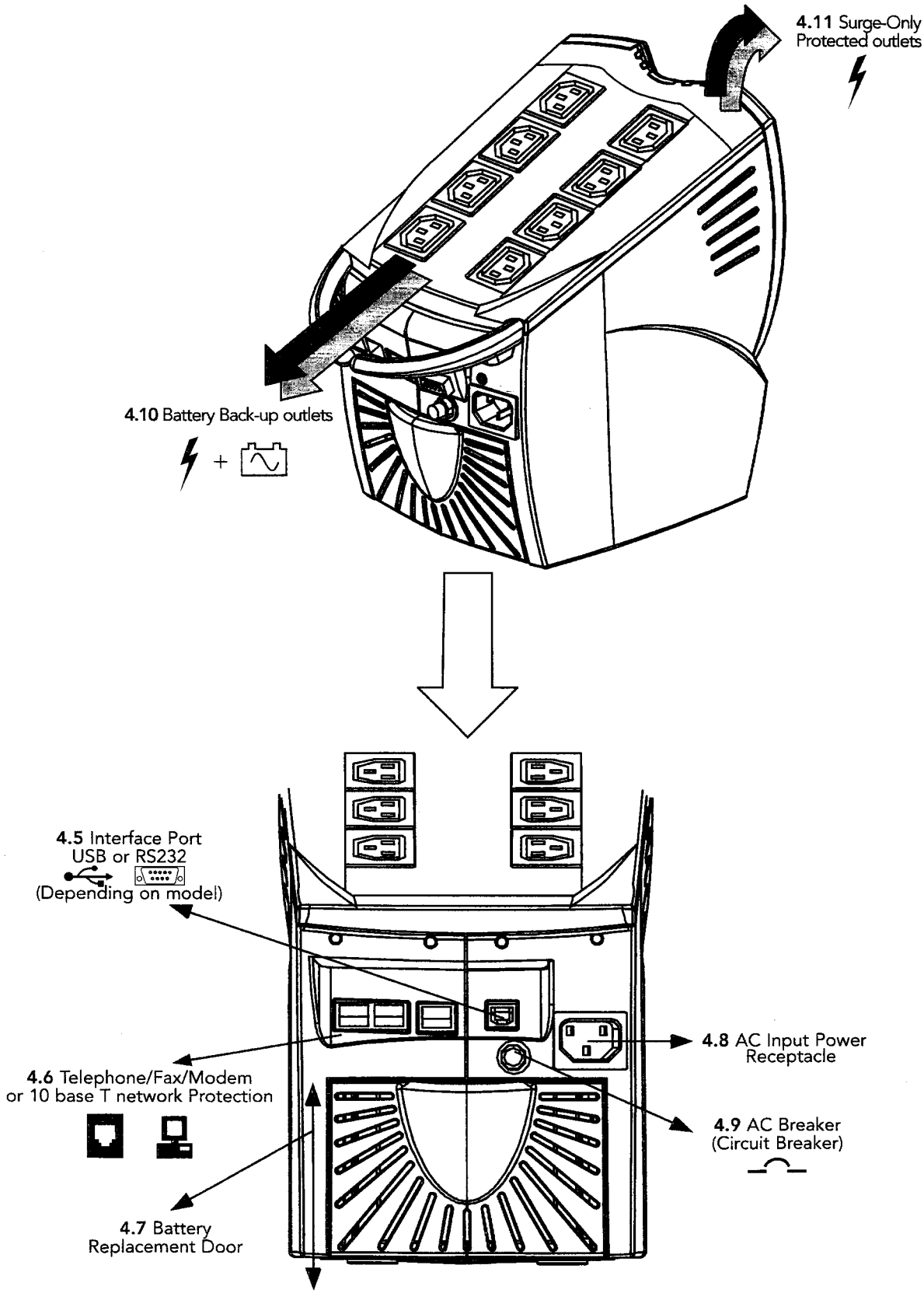
4.10 BATTERY BACK-UP OUTLETS

Data sensitive equipment such as a computer, monitor, and external drive should be powered by these outlets. Battery power is automatically provided in case of a power outage. Power (utility or battery) is not supplied to these outlets when the UPS is switched Off. (Do not plug surge protectors or power strips into the battery back-up outlets.)

4.11 SURGE-ONLY PROTECTED OUTLETS

Equipment such as a printer, fax machine, or scanner should be powered by these outlets. They are rated at 1.7Kva (1104W). These outlets do not provide power during a power outage. Equipment connected to these outlets should require surge protection only but should not require power during a power outage. These outlets are always on (when utility power is available) and are not controlled by the front panel switch.

Presentation (continued)

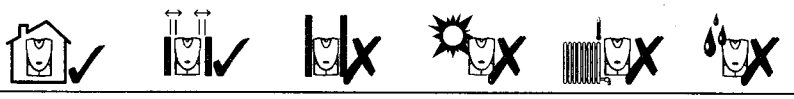

4.11 Surge-Only Protected outlets
4.10 Battery Back-up outlets
+
4.5 Interface Port USB or RS232
(Depending on model)
4.6 Telephone/Fax/Modem or 10 base T network Protection
4.7 Battery Replacement Door
4.8 AC Input Power Receptacle
4.9 AC Breaker (Circuit Breaker)

Installation

5.0 Inspection

Inspect the UPS upon receipt. The packaging is recyclable; save it for reuse or dispose of it properly.

5.1 Placement



Install the UPS in a protected area with adequate air flow and free of excessive dust. Do not operate the UPS where the temperature and humidity are beyond the specified limits.

5.2 Connect to Utility

Ensure all power switches are off. Remove the power cable at the back of the computer and plug it into the AC input at the rear of the UPS.

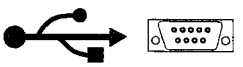
5.3 Connect the Loads

Connect the UPS to the computer by connecting one end of the power cord supplied, to the AC input of your Computer and the other end to a battery backup outlet ϟ +▭. Connect the monitor to the UPS by removing the power connection from the rear of the computer and connect it to a battery backup outlet ϟ +▭.

⚠ **CAUTION: Never connect a laser printer or scanner to the backup outlets of the UPS with other computer equipment. A laser printer or scanner periodically draws significantly more power when in use than when idle. This may overload the UPS.**

NOTE : Additional AC Power Cables 1.8M (6ft) (Part No. F3A102b06) are available for connecting additional loads to the UPS. Please contact Belkin Components for details of a local reseller.

5.4 Connect Computer Interface



Belkin Sentry Bulldog Shutdown Management Software and the USB ⇢ or RS232 ▭ cable (depending on model) can be used with this UPS. If used, connect the interface cable to computer interface port on the back panel of the UPS and then connect to the USB ⇢ or Serial port ▭ on your PC.

5.5 Connect the Telephone/Fax/Modem Lines

Connect a single-line telephone/fax/modem line into the surge protected sockets on the back of the UPS. The RJ45/ RJ11 modular sockets accept standard single-line telephone connections. This connection will require another length of telephone cable (supplied).

⚠ **CAUTION: The telephone/fax/modem protection feature could be rendered inoperable if improperly installed. Make sure that the telephone line from the wall is plugged into the connector marked: ▢ and the device or devices to be protected (telephone/fax/modem) are plugged into the connectors marked: ▣**

NOTE: To provide surge protection for your Ethernet network an RJ45 FastCat 5™ 1.8M (6ft) cable (Part No. A3L850b02M-BLKS) is required. Please contact Belkin Components for details of a local reseller.

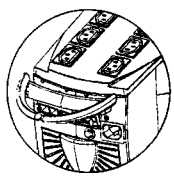
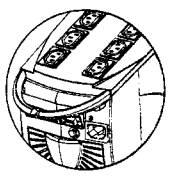
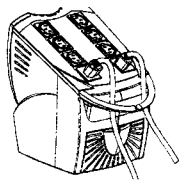
NOTE: This connection is optional but highly recommended as telephone/fax/modem lines often carry dangerous surges and spikes. The UPS works properly without a telephone/fax/modem connection.

Installation (continued)

CAUTION: This surge protection device is for indoor use only. Never install telephone wiring during a lightning storm.

5.6 Charge the Battery

The UPS charges its battery whenever it is connected to the utility power. For best results, charge the battery for 4 hours prior to initial use.

5.7 Cable Management

It is used to corral all of the power cords into a neat and safe order. It also assists in preventing accidental cord detachment.

CAUTION: The cable management rail should not be used as a handle. Attempting to lift the UPS by the cable management rail could result in personal injury and/or damage to the UPS.

Operation

6.0 Switch On

With the UPS plugged in, press and hold the on/off/test button ⏻ for more than 3 seconds until the "ON LINE" LED lights up to switch the UPS on. The UPS will perform self-testing each time it is switched on. The "ONLINE " LED remains on when the UPS is supplying power to the connected loads. The UPS can be utilised as a master on off switch for the protected equipment.

NOTE: The UPS maintains the battery charge when in the off position and will respond to commands received through the computer interface port.

6.1 Switch Off

Press and hold the on/off/test button ⏻ for more than 3 seconds until the "ON LINE" or "ON BATTERY" LED goes off.

6.2 SELF-TEST

Use the self-test to verify both the operation of the UPS and the condition of the battery. In normal utility power, push the on/off/test button ⏻ less than 1 second and the UPS performs a self-test function. During the self-test, the UPS operates in back-up mode.

NOTE: During the self-test, the UPS briefly operates the loads on-battery and the audible alarm beeps at 15 second intervals. If the UPS passes the self-test, it returns to on-line operation.

6.3 SILENCE

In " BACK-UP" mode, push the on/off/test button ⏻ less than 3 seconds to silence the audible alarm. (The function is void when under condition of "LOW BATTERY" or "OVERLOAD" .)

NOTE: In back-up mode, the UPS can be automatically turned off if none of the connected loads are operating.

Alarm

7.0 BACK-UP (slow alarm)

When in "BACK-UP" mode, the on battery yellow LED illuminates and the UPS sounds an audible alarm every 15 seconds. The alarm may be disabled using the Belkin Sentry Bulldog Shutdown Management Software or as stated in step 6.3. The alarm stops when the UPS returns to line normal operation.

7.1 LOW BATTERY (rapid alarm)

In backup mode when the battery energy runs low, the on battery Yellow LED flashs at 1 second intervals and the audible alarm beeps at 1 second intervals until the UPS shuts down from a depleted battery or returns to line normal operation.

7.2 OVERLOAD (continuous alarm)

When the UPS is in "OVERLOAD" the overload red LED lights up and the UPS sounds an audible alarm at 1 second intervals to warn of an overload condition. Disconnect nonessential equipment from the UPS to eliminate the overload.

CAUTION: If the overload is severe , the input circuit breaker may trip (the resettable centre plunger of the circuit breaker pops out). Disconnect nonessential load equipment from the UPS to eliminate the overload and press the plunger back in.

7.3 Fault (30 seconds continuously)

When the output is shorted, the "OVERLOAD" red LED illuminates and the UPS audible alarm beeps for 10 seconds continuously to warn of a short circuit condition.

7.4 Replace Battery

If the battery fails a self test, the UPS returns to "ONLINE" operation and lights the "REPLACE BATTERY" red LED. The loads are not effected. Recharge the battery overnight and perform the self test again. If the "REPLACE BATTERY" red LED is still on, the battery will need to be replaced.

Disconnect the equipment from the UPS prior to checking the equipment.

Software Options

8.0 Belkin Sentry Bulldog Shutdown Management Software

Belkin Sentry Bulldog Shutdown Management Software receives communication through the USB or RS232 interface port (depending on model) to perform monitoring functions, and also provide an orderly shutdown of the computer in the event of a power failure. Moreover, Belkin Sentry Bulldog Shutdown Management Software displays all of the diagnostic symptoms on screen, such as Voltage level, Frequency, Battery level, etc.

The software is available for Windows® 95, Windows® 98, Windows NT® V4 or higher and Windows® 2000.

8.1 Interface Kits

Each interface kit includes a special interface cable which is required to convert status signals from the UPS into signals that the individual operating system can recognize. The interface cable must be connected to the USB or RS232 port (depending on model) on the UPS. The other side of the interface cable can be connected to the USB or RS232 port (depending on model) of your PC. For other installation instructions and features, please refer to the README file.

CAUTION: Use only a factory supplied or authorized UPS monitoring cable!

Software Options (continued)

8.2 USB (Universal Serial Bus): HID (Human Interface Device) setup procedure

8.2.1 When the USB cable that comes with the UPS is first connected to a USB port on your computer, the Windows® 98 dialog called ADD NEW HARDWARE WIZARD should appear automatically. (To display this dialog manually, you can choose the Start button and then Settings to access the Control Panel and then double-click on ADD NEW HARDWARE. The USB cable should be connected already.)

8.2.2 THE ADD NEW HARDWARE WIZARD dialog box guides you through the installation process. Click on "Next".

8.2.3 A dialog states "Windows will now search for any new Plug-and-Play devices on your system". Click "Next".

8.2.4 A subsequent dialog gives you these options:

- Search for the best driver for your device (recommended).
- Display a list of all drivers in specific location, so you can select the driver you want. *Please accept the recommended choice by clicking on "Next".*

8.2.5 The Wizard will then search your hard drive for a file called....\INF\hiddev.inf. This file contains all the information that Windows® 98 needs to install the correct device drivers.

8.2.6 At this point the wizard might ask for the Windows® 98 CD-ROM. Place the CD in the CD-ROM drive and select OK.

8.2.7 The installation process will continue automatically until a dialog displays indicating that the drivers have been installed. Select the Finish button and your drivers are installed.

8.3 RS232 (Serial Interface) set-up procedure

Charge the UPS 2 – 4hours before installing the software. Connect the supplied RS232 serial cable (excluding 325VA Series) to the UPS and connect the other end to a designated port on the PC. Turn on the UPS, restart the PC and then place the supplied CD in the CD-ROM drive.

Installing the software.

(Note: These instructions assume D: is your CD-ROM drive. If not substitute the appropriate drive letter for D:).

8.3.1 Click the Start button on your desktop task bar, and select Run.

8.3.2 Type D:\Windows\SETUP.EXE and click OK.

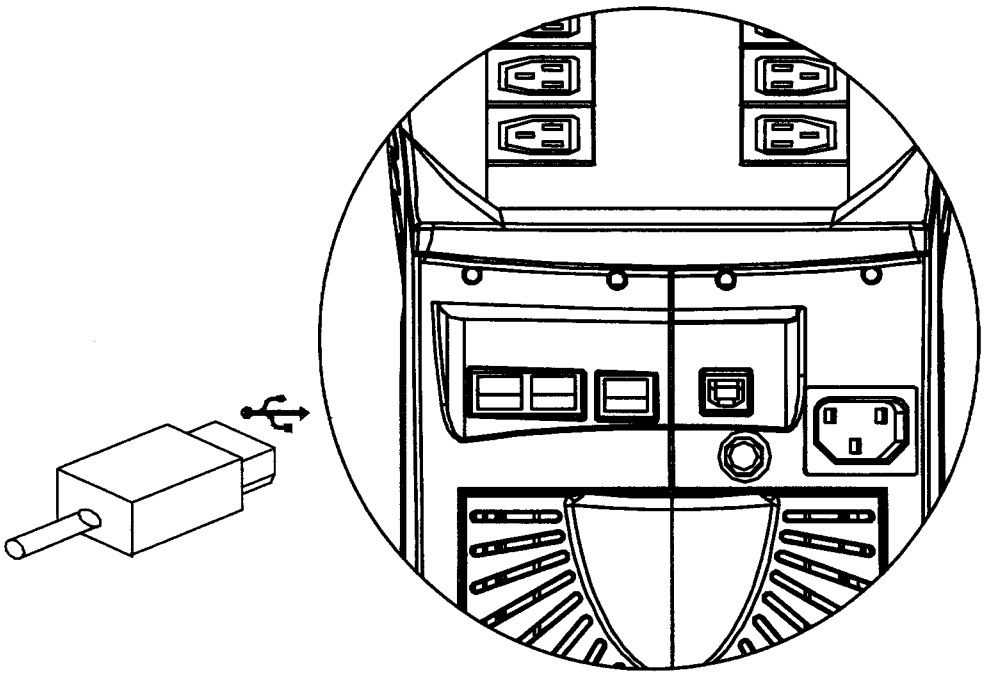
8.3.3 Follow the on screen instruction commands.

USB Interface Port

The computer interface port has the following characteristics:

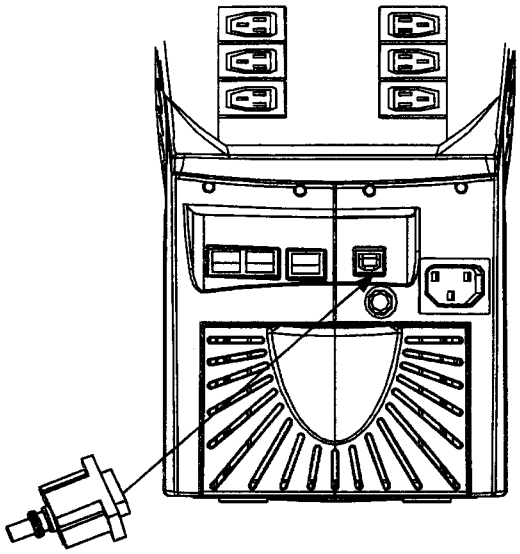
1. Plug-and-Play Support
2. Hot Attachment
3. USB Port Protection
4. Self Powered
5. 1.5 MBits/sec Low-Speed USB Device
6. Compliant With USB Specification Version 1.0
7. Compliant With HID Specification Version 1.0
8. Compliant With HID Power Device Class Version 1.0
9. Display UPS Status Data: Voltage Out Of Range/Buck/Boost/Frequency Out Of Range/ Overload Over Charged/Over Temperature/Internal Fail/Shutdown Request/Shutdown Imminent Switch On/Off/Switchable/Tested Awaiting Power/Good/Beeper/Terminate Charge Terminate Discharge/Below Remaining Capacity-Limit/Remaining Time Limit-Expired Charging/Discharging/Fully Discharged/Need Replacement
10. Measurement Items: AC Input Voltage/AC Output Voltage/AC Input Frequency/AC Output Frequency Battery Voltage/Battery Capacity/Temperature Percent Load
11. Control Items: Turn On/Off Outlet/Schedule Shutdown/High/Low Transfer Voltage/Battery Test Delay Before Shutdown/Delay Before Startup/Delay Before Reboot

USB Interface Port (continued)



1. Firmware . . . . . .Version Of Firmware
2. Rating VA . . . . . .Rated Power Capacity Of UPS
3. Rating Voltage . . . . . .Rated Power Voltage Of UPS
4. Rating Frequency . . . . . .Connected Frequency Rating Of UPS
5. Rating Battery Voltage . . . . .Rated Battery Voltage Used By UPS
6. Input frequency . . . . . .AC Utility Frequency
7. Input voltage . . . . . .AC Utility Voltage
8. Output source . . . . . .Indicating Bypass or On Battery
9. Alarm . . . . . .To Set Situation For Alarm
10. Voltage Sensitivity . . . . . .To Improve Transfer Time and Avoid Effect Of I/P Distortion
11. Outlet Relay ON/OFF... . . . .Set Delay Time to Control Outlet Relay On/Off
12. Next Shutdown . . . . . .Time To Next Scheduled Shutdown
13. Next Restart . . . . . .Time To Next Restart
14. AC Source . . . . . .Input Power Source Of UPS
15. Battery . . . . . .Condition Of Battery
16. Loading . . . . . .Load Percentage Of UPS
17. Battery Level . . . . . .Indicates The Remaining Power Percentage Of Battery
18. Selectable Transfer Voltage . .Change Transfer Voltage
19. Diagram . . . . . .Input & Output Power Flow Of UPS
20. Picture . . . . . .General Outlock Of UPS

RS232 Interface Port



RS232

RS232 Pin definition:

NC ----------1	6 ----------NC
TXD ----------2	7 ----------NC
RXD ----------3	8 ----------NC
NC ----------4	9 ----------NC
Signal Ground --5	

*pin2: PC receives line RS232 data from UPS.

*pin3: PC transmits line RS232 data to UPS.

*pin5: signal ground.

*other: not used.

The RS232 communication port provides the following features:

1. Monitoring charger status
2. Monitoring battery status and condition
3. Monitoring inverter status
4. Monitoring UPS status
5. Monitoring the utility status
6. Providing the power switch function for the computer to turn on/off the utility on schedule. To save power UPS data will be provided at 2400 baud rate and is made up of 8 bit, 1 stop bit, and no parity bit. All the information is provided in ASCII format.

HARDWARE:

BAUD RATE ---------- 2400 bps

DATA LENGTH ---------- 8 bits

STOP BIT ---------- 1 bit

PARITY ---------- NONE

CABLING:

COMPUTER			UPS	
RX	(pin2)	←	TX	(pin2)
TX	(pin3)	→	RX	(pin3)
GND	(pin5)	→	GND	(pin5)

Battery Replacement

The average life of a battery is 3-5 years before ever needing to be replaced.

11.0 EcoBattery Replacement Program

In the event that the UPS needs a battery replacement, Belkin offers its EcoBattery Replacement Program. This program offers a battery replacement and full service check on your UPS to ensure it is working properly to protect your connected devices. It also ensures that the battery in the UPS is discarded properly in an effort to keep our environment clean. All participants in the program will receive a two-year extended product warranty. Please call Belkin Components for detailed information regarding the cost of the program and shipping procedures.

CAUTION: When the battery is disconnected the loads are not protected from power outages.

11.1 Battery Replacement

Battery replacement is a safe procedure. You may leave the UPS On and equipment connected during this procedure. Do not replace the battery when the UPS is 'On Battery' [⍓]. See page 15 for diagram illustrations.

11.1.1 Set the UPS at the edge of a table (Diagram a).

11.1.2 Slide the battery compartment cover down (Diagram b).

11.1.3 Grasp the battery and slide it partially out. Then grab the battery firmly and remove; the battery wires will disconnect as the battery is pulled out (Diagram c).

11.1.4 Carefully insert the new battery halfway into the UPS. Avoid pinching the wires (Diagram d).

11.1.5 Connect the wires to the new battery according to the following configuration: Red wire to red terminal Black wire to black terminal

11.1.6 Carefully insert the battery terminals.

11.1.7 Slide the battery compartment cover back into place (Diagram e).

NOTE: Replacement batteries are available for all models. Please contact Belkin Components for details of a local reseller.

The old battery must be recycled. Deliver the battery to an appropriate recycling facility. Additional recycling information is provided with your new battery.

CAUTION:
Remove watches, rings and other metal objects when working with batteries.

WARNING:
DO NOT DISPOSE OF BATTERIES IN A FIRE, THE BATTERIES MAY EXPLODE.

DO NOT OPEN OR TAMPER WITH THE BATTERIES. DAMAGE TO THE PROTECTIVE OUTER SHELL CAN RELEASE THE ELECTROLYTE WHICH IS HARMFUL TO THE SKIN AND EYES.

REPLACE BATTERIES WITH THE SAME NUMBER AND TYPE AS ORIGINALLY INSTALLED IN THE EQUIPMENT.

Battery Replacement (continued)

Refer Servicing to qualified service personnel or contact Belkin Components.

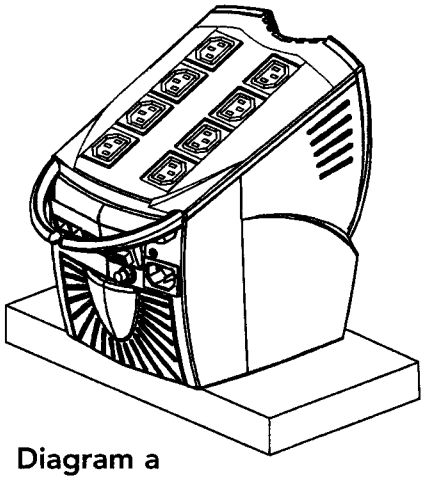


Diagram a

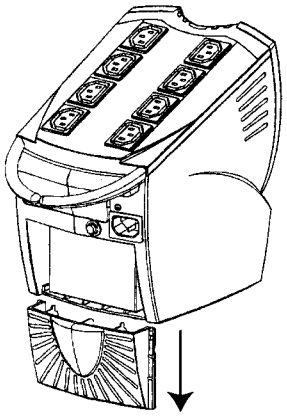


Diagram b
Slide the battery compartment cover.

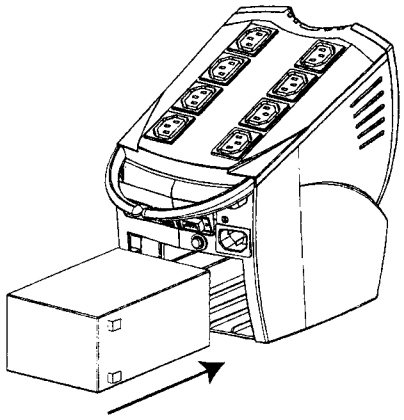


Diagram d
Slide the battery back in. Avoid pinching the wires.

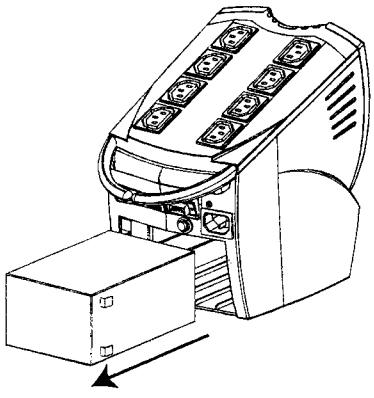


Diagram c
Slide the battery partially out.

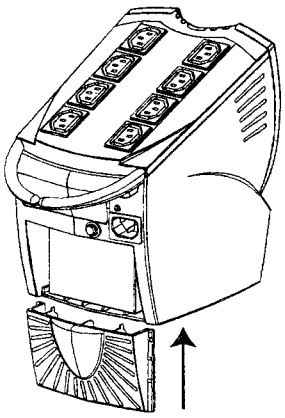


Diagram e
Slide the battery cover into place.

Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
UPS not on LED not lit	On/off/test/button not pushed or pushed less than 3 seconds	Press the on/off/test button more than 3 seconds
	Battery voltage less than 10V	Recharge the UPS at least 4 hours
	UPS fault	Contact service personnel
UPS always at battery mode	Power cord loose	Replug the power cord
	AC breaker is burned out	Replace the breaker
	Line voltage too high, too low or black out	Normal condition
Back up time too short	Battery not fully charged	Recharge the UPS at least 4 hours
	UPS is overloaded	Remove some unnecessary loads
	Charger fault or other reason	Replace battery
The UPS continuously beeps	Overload	Remove the non-critical loads
Red LED lit	Battery failure	Replace battery

Storage

13.0 Storage Conditions

Store the UPS covered and upright in a cool, dry location, with its battery fully charged. Before storing, charge the UPS for at least 4 hours. Disconnect any cables connected to the computer interface port to avoid unnecessary drainage of the battery.

13.1 Extended Storage

During extended storage in environments where the ambient temperature is -15°C to +30°C, charge the UPS battery every 6 months.

During extended storage in environments where the ambient temperature is +30°C to +45°C, charge the UPS battery every 3 months.

Specifications (RS232 Series)

MODEL		325VA	425VA	525VA	625VA
INPUT	Capacity	325VA(211W)	425VA(255W)	525VA(315W)	625VA(375W)
	Voltage	187 Vac - 280 Vac			
	Frequency	50Hz or 60Hz ±3Hz (auto sensing)			
OUTPUT	Voltage (on battery)	Simulated sine wave, 230Vac±8%			
	Frequency (on battery)	50Hz or 60Hz ±1Hz			
	Voltage Regulation AVR	Smart boost increases 14.8% of voltage if input is 213 to 187 Vac. Smart trim reduces 12.8% of voltage if input is 247 to 280 Vac			
	Transfer Time	≤ 4 milliseconds, including detection time			
PROTECTION AND FILTERING	Spike Protection	320 Joules			
	Overload Protection	UPS automatic shutdown if overload exceeds 130% in AC mode and 100% in back-up mode. UPS alarms continuously in > 107% or <130% in AC mode.			
	Unit Input	Breaker for overload and short circuit protection			
	Modem/Network	Single Line (2 Wire, RJ11) Network (UTP, RJ45) compatible jacks, one input/two output except 325 Series			
	Short Circuit	UPS output cut off immediately or input breaker protection			
BATTERY	Type	Sealed, maintenance-free lead acid			
	Typical Recharge Time	4 hours (to 90% of full capacity)			
	Protection	Automatic self-test and discharge protection, replace battery indicator			
	Back up Time	Depending on computer load...			
	Full/half load	5-17 min	5-24 min.	5-32 min	5-41 min.
PHYSICAL	Net Weight	6.5 kg/14.3lbs.	7.3 kg/16lbs	7.3 kg/16lbs	7.3 kg/16lbs
	Dimension (mm) WDH	289 x 243 x 325			
	Input inlet	10A/250V*1pcs, EN60320			
	Output outlet (UPS)	10A/250V*4pcs; EN60320/F			
	Output outlet (Bypass)	10A/250V*4pcs; EN60320/F			
ALARM	Battery Back-Up	Slow beeping sound (about 15 sec. interval)			
	Battery Low	Rapid beeping sound (about 1 sec. interval)			
	Overload	Continuous beeping sound (about 1 sec. interval)			
	Fault	10 sec. beeping sound continuously			
	Battery test	Slow beeping sound (about 15 sec. interval)			
INTERFACE	RS232 Interface	RS232 Port (except 325VA Series)			
CONFORMANCE	Safety	CE, TUV/GS, TUV/EMC,EN5009-1-1-1, EN50091-2, EN50082-1			
	Surge	Meet IEEE C62.41. Category A standard			
ENVIRONMENT	Ambient operation	0~95%, humidity non-condensing, 0~40°C			
	Audible noise	<40dBA (1 meter from surface)			
	Storage condition	-15°C – 40°C (with battery) -15°C – 70°C (without battery)			

Specifications (USB Series)

MODEL		350VA	500VA	650VA
INPUT	Capacity	350VA(277W)	500VA(300W)	650VA(390W)
	Voltage	187 Vac - 280 Vac		
	Frequency	50Hz or 60Hz ±3Hz (auto sensing)		
OUTPUT	Voltage (on battery)	Simulated sine wave, 230 Vac±8%		
	Frequency (on battery)	50Hz or 60Hz ±1Hz		
	Voltage Regulation AVR	Smart boost increases 14.8% of voltage if input is 213 to 187 Vac. Smart trim reduces 12.8% of voltage if input is 247 to 288 Vac		
	Transfer Time	≤ 4 milliseconds, including detection time		
PROTECTION AND FILTERING	Spike Protection	150 Joules		
	Overload Protection	UPS automatic shutdown if overload exceeds 130% in AC mode and 100% in back-up mode. UPS alarms continuously in > 107% or <130% in AC mode.		
	Unit Input	Breaker for overload and short circuit protection		
	Modem/Network	Single Line (2 Wire, RJ11) Network (UTP, RJ45) compatible jacks, one input/two output		
	Short Circuit	UPS output cut off immediately or input breaker protection		
BATTERY	Type	Sealed, maintenance-free lead acid		
	Typical Recharge Time	4 hours (to 90% of full capacity)		
	Protection	Automatic self-test and discharge protection, replace battery indicator		
	Back up Time	Depending on computer load...		
	Full/half load	5-20 min	5-30 min.	5-45 min
PHYSICAL	Net Weight	5.5kg/12.3lbs.	6kg/13.23lbs	6.5kg/14.33lbs.
	Dimension (mm) WDH	289 x 243 x 325		
	Input inlet	10A/250V*1pcs, EN60320		
	Output outlet (UPS)	10A/250V*4pcs; ENG60320/F		
	Output outlet (Bypass)	10A/250V*4pcs; ENG60320/F		
ALARM	Battery Back-Up	Slow beeping sound (about 15 sec. interval)		
	Battery Low	Rapid beeping sound (about 1 sec. interval)		
	Overload	Continuous beeping sound (about 1 sec. interval)		
	Fault	10 sec. beeping sound continuously		
	Battery test	Slow beeping sound (about 15 sec. interval)		
INTERFACE	USB Interface	USB Port		
CONFORMANCE	Safety	CE, TUV/GS, TUV/EMC,EN5009-1-1-1, EN50091-2, EN50082-1		
	Surge	Meet IEEE C62.41. Category A standard		
ENVIRONMENT	Ambient operation	0~95%, humidity non-condensing, 0~40°C		
	Audible noise	<40dBA (1 meter from surface)		
	Storage condition	-15°C – 40°C (with battery) -15°C – 70°C (without battery)		

Information

CE Declaration of Conformity

We, Belkin Components, declare under our sole responsibility that the F6C350-USB/F6C500-USB/F6C650-USB/F6C325-220V/F6C425-220V/F6C525-220V/F6C625-220V to which this declaration relates, is in conformity with Generic Emissions Standard EN50081-1 and with Generic Immunity Standard EN50082-1 1992.

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Belkin Components warrants this product against defects in materials and workmanship for two years. If a defect is discovered, Belkin will, at its option, repair or replace the product at no charge, provided it is returned during the warranty period, with transportation charges prepaid, to Belkin Components following the procedure specified in the warranty sheet. Proof of purchase may be required.

This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication; if the product has been modified without the written permission of Belkin; or if any Belkin serial number has been removed or defaced.

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